

# Chickamauga Lock Project Update Inland Waterways Users Board Meeting No. 87

Mr. Don Getty  
Project Manager  
Nashville District  
Great Lakes and Ohio River Division  
25 May 2018



*"The views, opinions and findings contained in this report are those of the authors(s) and should not be construed as an official Department of the Army position, policy or decision, unless so designated by other official documentation."*

**BUILDING STRONG®**  
*and Taking Care of People!*



US Army Corps  
of Engineers®



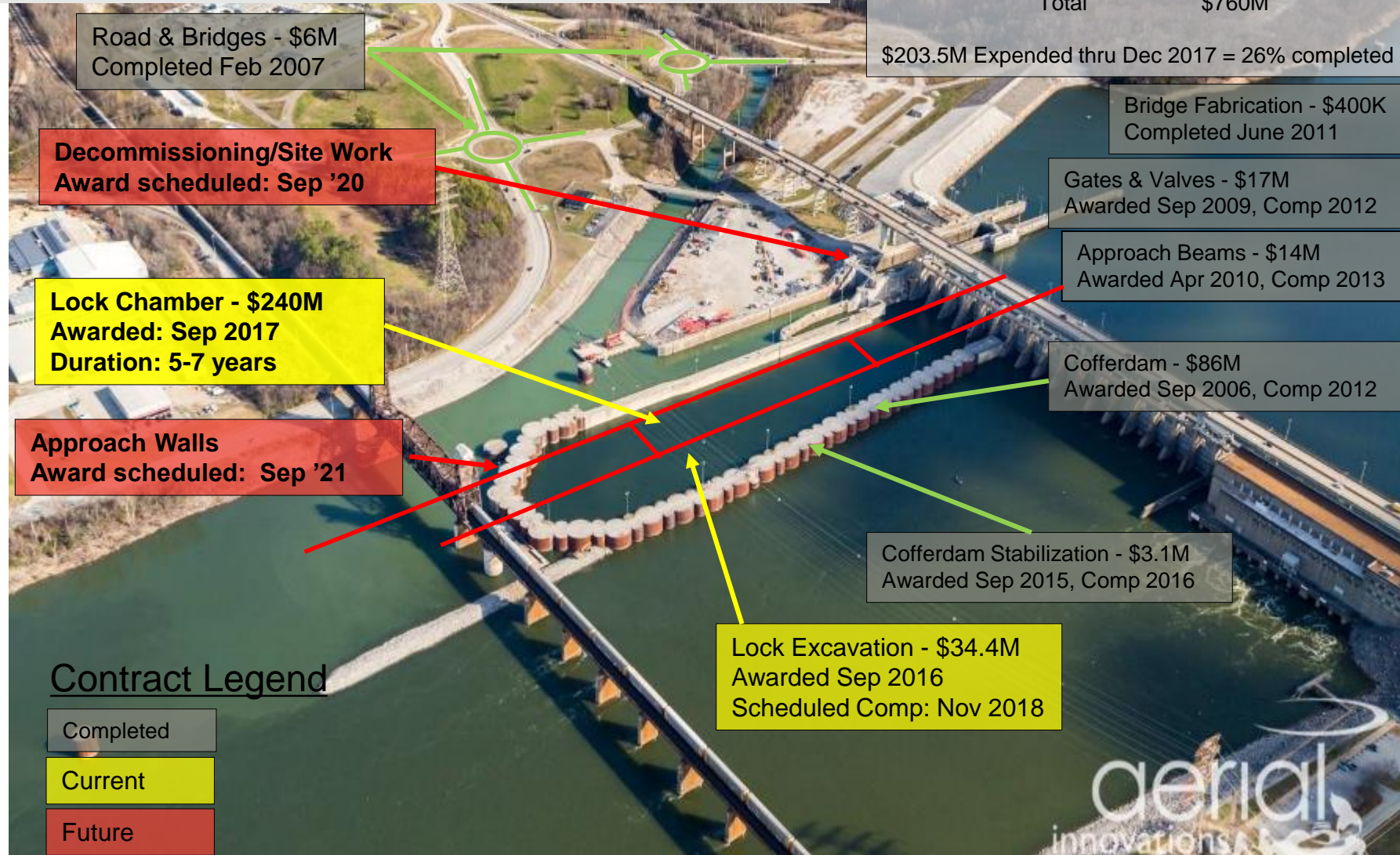
# Chickamauga Lock Replacement

- **Bottom Line Up Front**
  - ▶ **Lock Excavation Construction**
    - Rock Blasting/Excavation on-going, slightly behind schedule.
  - ▶ **Lock Chamber Construction**
    - Proceeding well
  - ▶ **Total Project Cost Estimate includes \$128 million in contingency.**
  - ▶ **Post Authorization Change Report anticipated to be approved by HQ in July 2018.**
    - Updated certified Total Project Cost Estimate anticipated in June 2018.



# CHICKAMAUGA LOCK PROJECT OVERVIEW

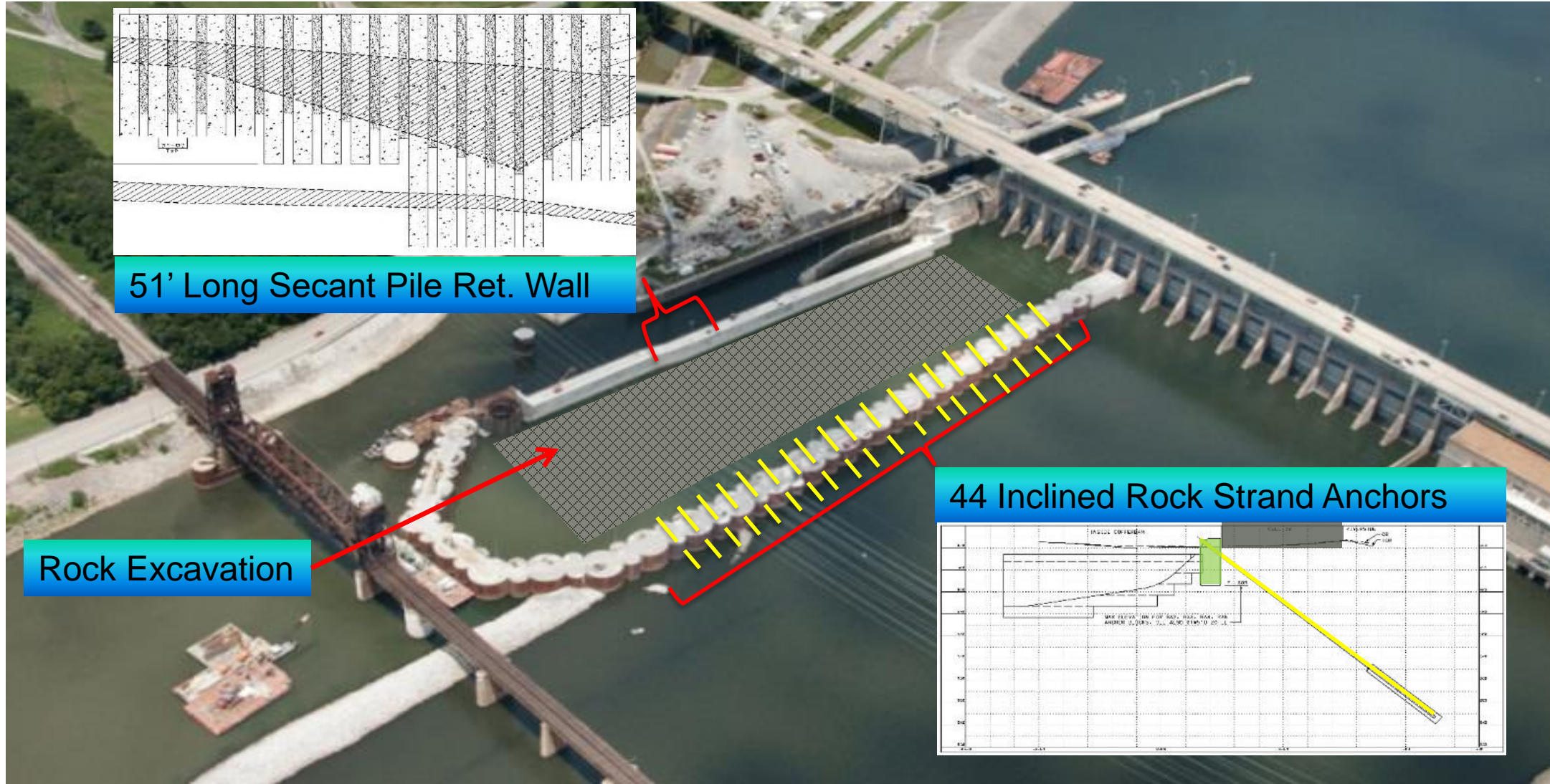
3



**BUILDING STRONG®**  
and Taking Care of People!



# Lock Excavation Construction Contract



**BUILDING STRONG®**  
4 *and Taking Care of People!*

- Contract Award Sep 2016 – \$34.4M
- Scheduled completion date - Nov 2018





# April 2018 - Lock Excavation Contract

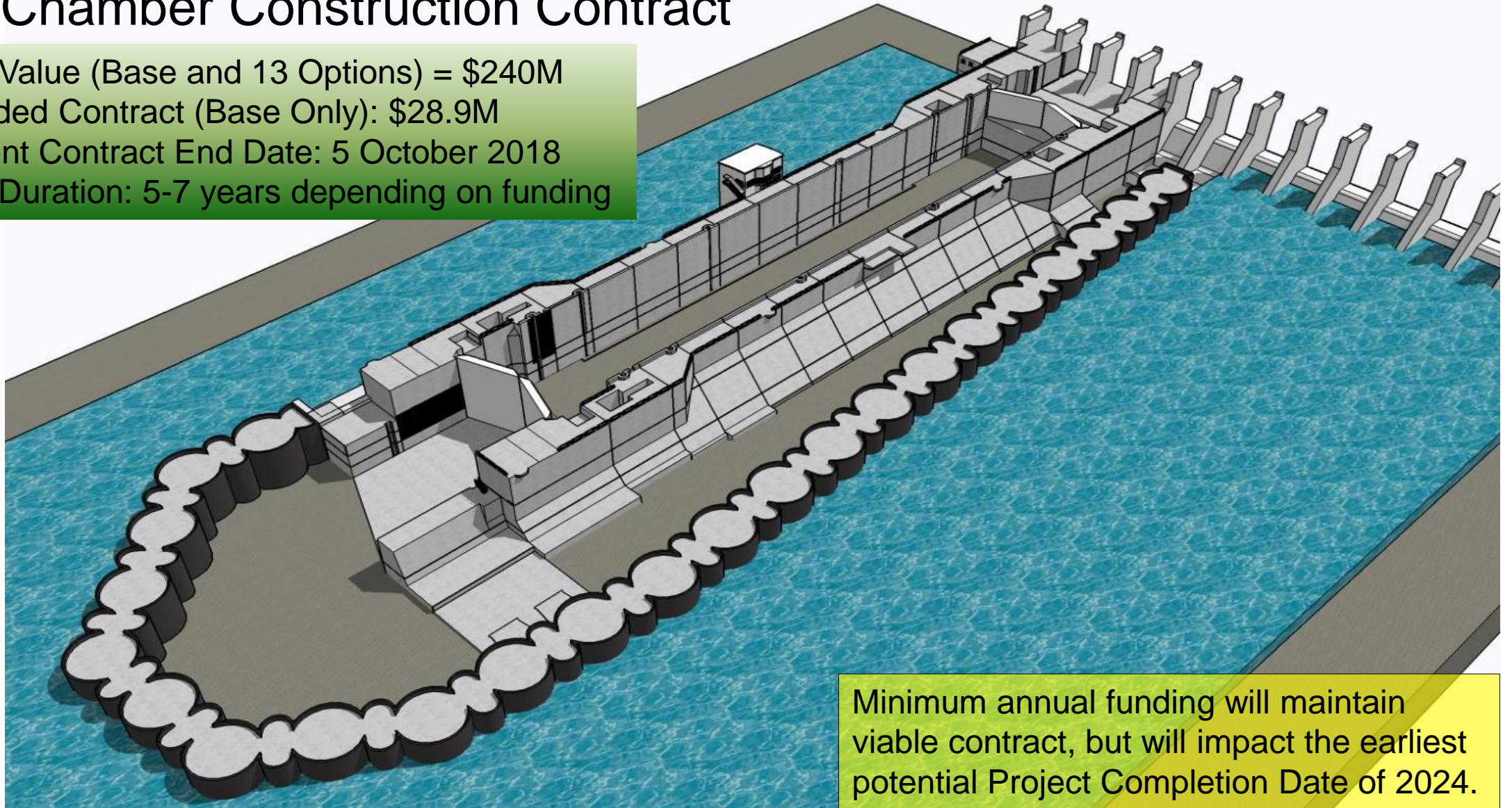


**BUILDING STRONG<sup>®</sup>**  
*and Taking Care of People!*



# Lock Chamber Construction Contract

- Total Value (Base and 13 Options) = \$240M
- Awarded Contract (Base Only): \$28.9M
- Current Contract End Date: 5 October 2018
- Total Duration: 5-7 years depending on funding



Minimum annual funding will maintain viable contract, but will impact the earliest potential Project Completion Date of 2024.

**BUILDING STRONG®**  
*and Taking Care of People!*

# Total Project Cost Estimate

## (Certified 1 June 2016, FY17 Price Level)

Feature Code & Description	Spent Cost Thru 10/1/2015 (\$K)	Remaining Cost (\$K)	Contingency Amount (\$K)	Fully Funded Amount (\$K)
02 – Relocations	\$5,885	\$0	\$0	\$5,885
05 – Locks	\$125,296	\$397,478	\$114,677	\$637,451
06 – Fish & Wildlife Facilities	\$0	\$670	\$174	\$844
19 – Buildings, Grounds & Utilities	\$3	\$9,425	\$2,733	\$12,161
01 – Lands and Damages	\$327	\$0	\$0	\$327
30 – Planning, Engineering & Design	\$44,081	\$8,649	\$2,496	\$55,226
31 – Construction Management	\$5,906	\$28,622	\$8,256	\$42,784
<b>Total</b>	<b>\$181,497</b>	<b>\$444,844</b>	<b>\$128,337</b>	<b>\$754,678</b>

**BUILDING STRONG®**  
and Taking Care of People!

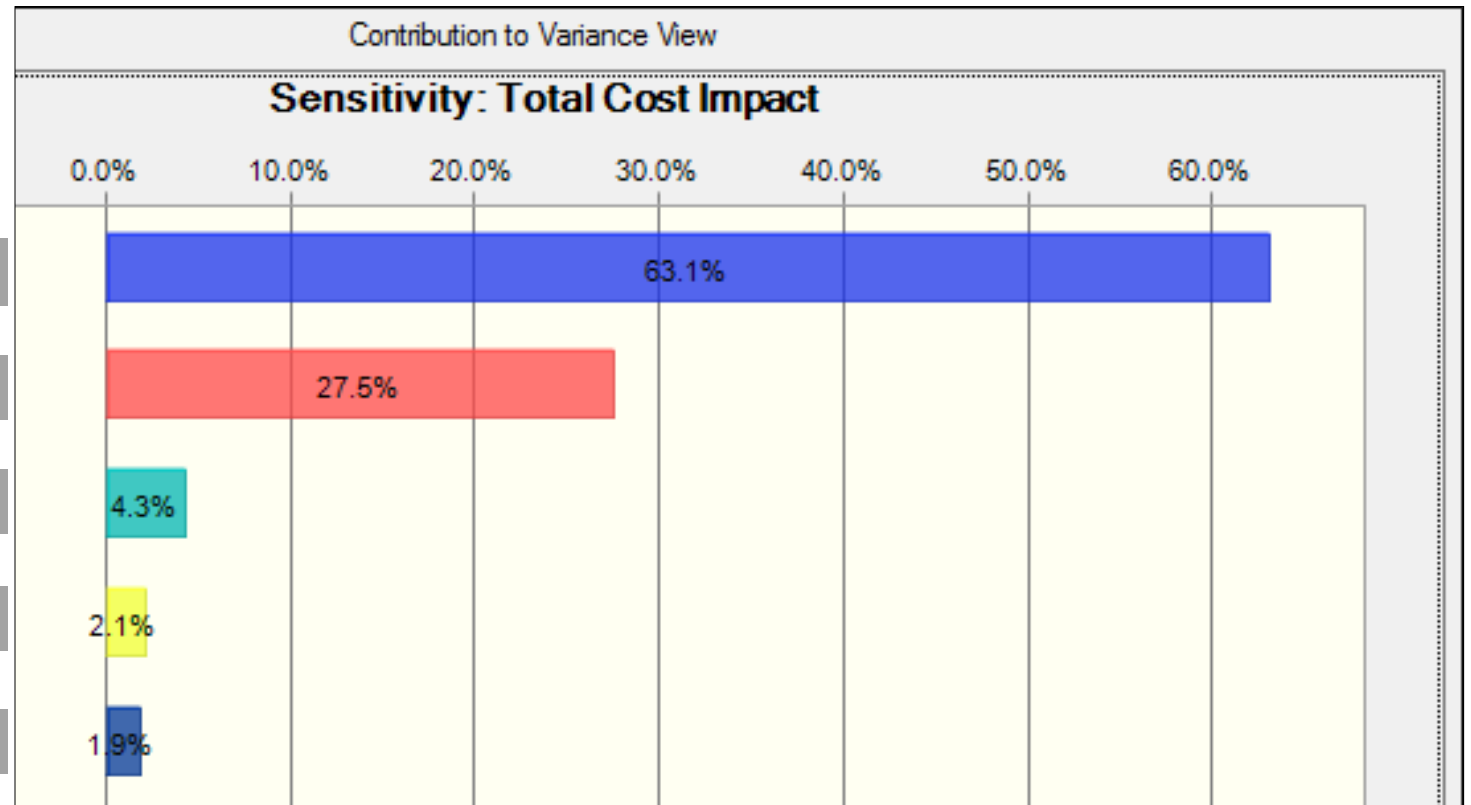
File Name



US Army Corps  
of Engineers



# Total Project Cost Estimate



**BUILDING STRONG®**  
*and Taking Care of People!*

File Name



# Chickamauga Lock & Dam, Tennessee River, TN

	ARRA	CG	IWTF	Total
<b>Total Project Cost:</b>				\$754,678,000 <sup>1</sup>
Allocations through FY2014:	\$49,307,619	\$65,349,036	\$68,161,965	\$182,818,620
FY15 Allocation:	\$0	\$1,500,000	\$1,500,000	\$3,000,000
FY16 Allocation:	NA	\$14,800,000	\$14,800,000	\$29,600,000
FY17 Allocation:	NA	\$20,000,000	\$20,000,000	\$40,000,000
FY18 Allocation:	NA	\$0	\$0	\$0
FY19 Budget:	NA	\$0	\$0	\$0
<b>Total Allocations to Date:</b>	\$49,307,619	\$101,649,036	\$104,461,965	\$255,418,620
<b>Remaining Balance:</b>				\$499,259,380
<b>Remaining Balance Change From Last Meeting</b>				\$0

Note: <sup>1</sup>Cost & Schedule data reflect the FY2017 risked based total project cost update, Fully Funded, assuming 2024 completion.

## Changes

- None

### Funding Overview

- Authorized Cost: \$428,729,000 (Oct 16 \$)
- 902 Limit: \$482,162,000 (Oct 16 \$)
- ARRA Funds: \$ 49,330,043 (total FY09-12)
- Engineering & Design Cost: \$ 47,306,000 (thru FY17)
- Supervision & Admin Cost: \$ 7,338,000 (thru FY17)
- Mitigation Cost: TBD

### Current Status of the Project

- Lock Chamber base contract is **22% financially complete**.
- Lock Excavation (LE) contract is **53% financially complete**.

### Next Steps

- Progress rock blasting/excavation activities in LE contract.
- Exercise Lock Chamber contract options in FY18.
- Anticipate HQ USACE approval of PACR in Jul 2018.

# Chickamauga Lock & Dam, Tennessee River, TN

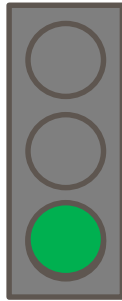
Schedule of Remaining Work	Design Initiated	Contract Award	Construction Complete *	Project Benefits**	Capitalized Cost Closeout
Task 1 – Approach Walls Fabrication	30-Mar-04	05-Apr-10	08-Mar-13		
Task 2 – Cofferdam Stabilization	31-Sep-05	25-Sep-15	18-Jul-16		
Task 3 – Lock Excavation	31-Sep-05	26-Sep-16	Nov 2018		
Task 4 – Lock Chamber	11-Aug-05	28-Sep-17	Dec 2023	Dec 2023	
Task 5 – Site Work and Decommission Existing Lock	11-Aug-05	30-Sep-20	Sept 2024		
Task 6 – Approach Walls	11-Aug-05	30-Sep-21	Dec 2023		

\*Dates are achievable based on the most efficient funding profile.

\*\*Based on June 2016 Certified cost estimate Cost and Schedule Risk Assessment, the project has an 80% confidence level of being completed by 2028. Two of the four years of this schedule contingency is due to the risk of not receiving efficient funding.



# Chickamauga Lock Project Time and Cost Scorecard



Expenditures	31 Mar
Planned (BCWS)	\$222.4M
Earned (BCWP)	\$217.7M
Actual (ACWP)	\$217.4M

**BCWP:** Reports the value (based on % complete) of the work performed to date.

### Target:

Actual as compared to Planned: ( <1% = Green) (>1%and <3% = Yellow) and (>3% = Red)

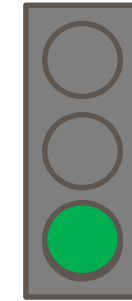
## Schedule 31 Mar

(Baseline)/(Current)

Project Complete	May 2028 / Jun 2024
Lock Operational	Nov 2027 / Dec 2023

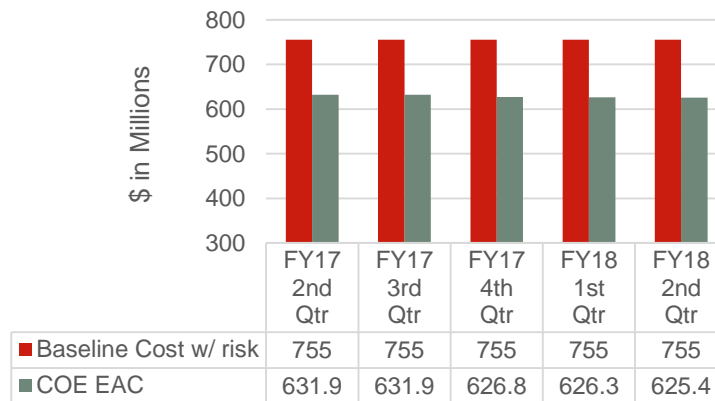
**Measures:** Planned project completion and Lock operational dates

**Target:** PACR Anticipated in FY18.



## Budget

Chickamauga Project EAC Trend

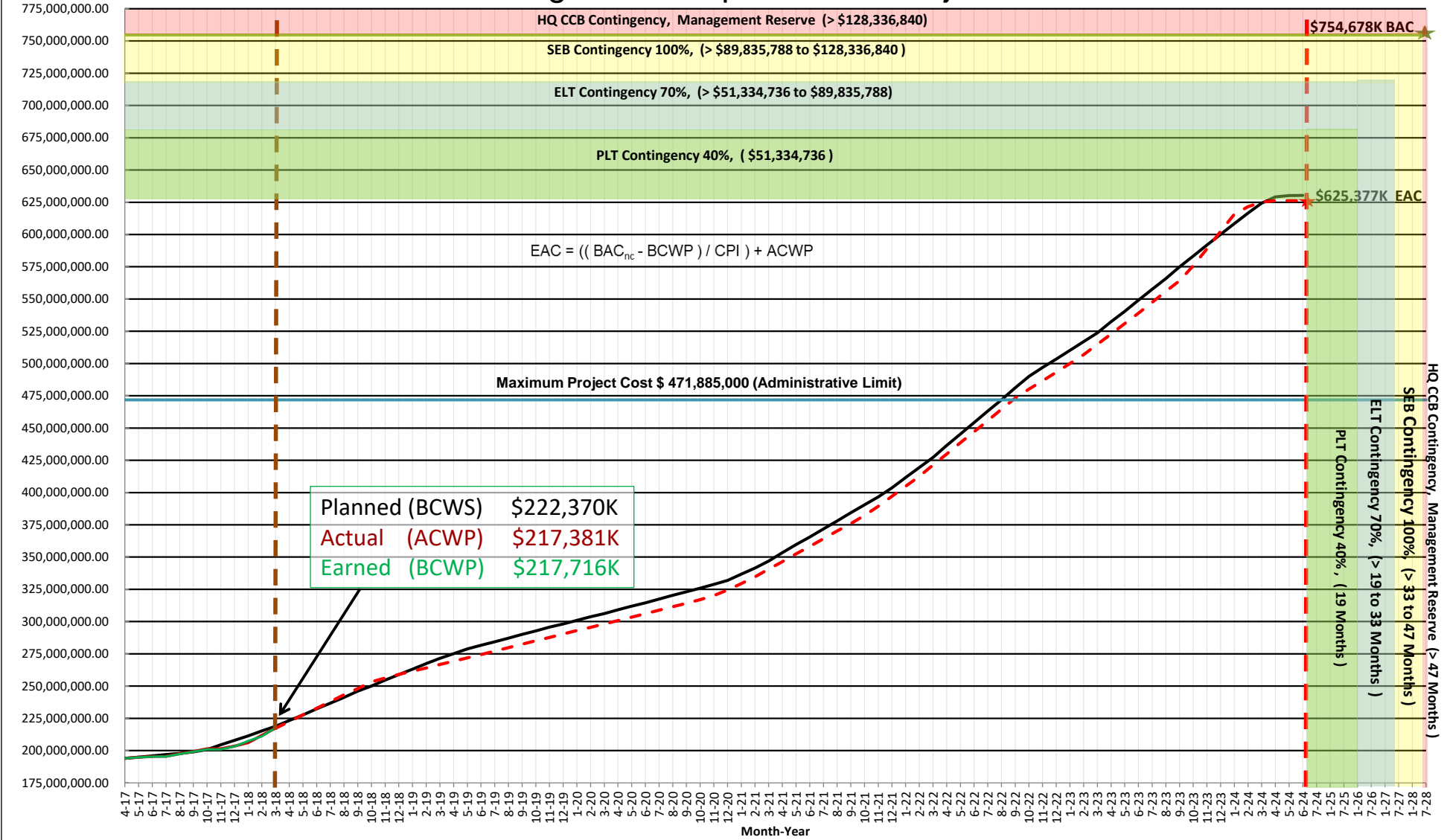


## Major Activity Schedule

Activity	Baseline	Current
Update Risk Based Certified Cost Estimate	June 2018	June 2018
PACR Approved by HQ	-	July 2018
Lock Excavation – Contract Complete	2 Nov 2018	6 Nov 2018
Lock Chamber – Base Contract Completion Date	5 Oct 2018	5 Oct 2018

**BUILDING STRONG®**  
and Taking Care of People!

# Chickamauga Lock Replacement Project S Curve





# Chickamauga Lock Project Schedule

Major Feature Construction	Award	Complete
Lock Excavation Construction	Sep 2016	Nov 2018
Lock Chamber	Sep 2017	~Dec 2023
Decommission and Site Work	Sep 2020	Sept 2024
Approach Walls Construction	Sep 2021	Dec 2023
Updated Certified Total Project Cost Estimate	N/A	June 2018
PACR for 902 Exceedance <sup>1</sup>	N/A	July 2018

<sup>1</sup> 902 Exceedance expected by FY 2020 with efficient funding.

# Chickamauga Lock Summary and Challenges

- Lock Excavation contract is progressing, but carries high risk due to site geology.
- Lock Chamber contract ramping up.
  - **Minimum annual funding is CRITICAL in FY18 and beyond** to maintain viable Lock Chamber contract.
- Expect Post Authorization Change Report (**PACR**) to be completed in July 2018.
  - Current Total Project Cost Estimate projected to exceed 902 Limit in FY2020 with efficient annual funding.